

1 What is claimed is:

2 1. A computer-implemented visualization model of similarity relationships between  
3 documents comprising:  
4 performing a similarity search based on at least one attribute of a reference  
5 document to find at least one target document with similar attributes;  
6 creating a visual representation of the reference database document and the at  
7 least one target document;  
8 creating a visual representation of the similarities between the reference document  
9 and the at least one target document; and  
10 displaying the visual representations of the database documents and their  
11 similarities on a graphical user interface.

1 2. The method according to claim 1 wherein the at least one target documents that  
2 are similarity searched reside in a plurality of databases.

1 3. The method according to claim 1 wherein the similarity search returns a result set  
2 of target documents that are used by the visualization model to create the visual  
3 representation of the documents and the similarities between the documents.

1 4. A computer-implemented interactive visualization model of similarity  
2 relationships between documents comprising:  
3 using a similarity search performed on attributes of a reference document which  
4 results in a set of 0 to n target documents with similar attributes;  
5 creating a visual representation of the reference document and each target  
6 document;

7 creating a visual representation of similarities between the reference document  
8 and each target document; and  
9 displaying the visual representation of the reference documents and each target  
10 document and their similarities on a graphical user interface.

1 5. The method of claim 4 further comprising allowing a user using the graphical user  
2 interface to initiate the similarity search and select the attributes of the reference  
3 document to be used in the similarity search.

1 6. The method of claim 4 further comprising allowing a user using the graphical user  
2 interface to choose any attributes of the reference document to be used in the  
3 similarity search.

1 7. The method of claim 6 further comprising using attributes of a target document as  
2 a source for a new similarity search.

1 8. A computer-implemented visualization model of similarities between documents  
2 comprising:

3 displaying a reference hierarchical object (a reference model node);

4 allowing a user to initiate a similarity search, based on at least one attribute of the  
5 reference hierarchical object, to find at least one target hierarchical objects (a  
6 target model node);

7 visually representing the reference model node and the at least one target model  
8 node that meet a similarity search criteria;

9 visually representing the similarities between the reference model node and each  
10 target model node as a model edge;

11 displaying the visual representations of the model node and model edge on a  
12 graphical user interface.

1 9. The method according to claim 8 wherein the model node comprises:  
2 a reference to the hierarchical object the model node represents;  
3 a reference to at least one attribute of the hierarchical object used in the similarity  
4 search if a model edge exists; and  
5 visual properties of the hierarchical document the model node represents.

1 10. The method according to claim 8 further comprising storing the visual  
2 representation of the reference model node, each target model node, and each  
3 model edge in computer memory or on disk.

1 11. The method according to claim 8 wherein the model edge comprises:  
2 an identifier of the reference model node from which the visual representation of  
3 the model edge will extend and an identifier of the at least one target model node  
4 to which the visual representation of the model edge will extend; and  
5 a list of the similarity search attributes used in the similarity search.

1 12. The method according to claim 11 further comprising user chosen attributes to be  
2 used in the similarity search.

1 13. A computer-implemented method of visualizing similarity relationships between  
2 documents comprising:  
3 using a reference hierarchical document;  
4 performing a similarity search based on user selected attributes of the reference  
5 hierarchical document and determining a result set of target documents  
6 comprising 0 to n hierarchical documents;

7 converting each hierarchical document to a model node that visually represents  
8 each hierarchical document to be displayed on a graphical user interface; and  
9 using the similarity search results, creating a model edge that visually represents  
10 the similarities between the reference hierarchical document and each hierarchical  
11 document in the result set to be displayed on a graphical user interface.

1 14. The method of claim 13 further comprising displaying the model edge, model  
2 node on a graphical user interface.

1 15. The method of claim 8, wherein each model edge indicates a degree of similarity  
2 between the reference hierarchical object and the target hierarchical object is  
3 displayed as a line connecting model nodes, said model nodes are depicted as  
4 geometric shapes on the graphical user interface.

1 16. The method of claim 15, wherein the length of the line connecting the model  
2 nodes varies as a function of the degree of similarity between the reference  
3 document and the target document referenced by the model nodes.

1 17. The method of claim 1, wherein the visual representation is three dimensional.

1 18. A computer-readable medium containing instructions for a visualization model of  
2 similarity relationships between documents comprising:  
3 performing a similarity search based on at least one attribute of a reference  
4 document to find at least one target document with similar attributes;  
5 creating a visual representation of the reference database document and the at  
6 least one target document;  
7 creating a visual representation of the similarities between the reference document  
8 and the at least one target document; and

